

Second Public Workshop

SF₆ Reductions in Non-Semiconductor and Non-Electric Utility Applications

**California Air Resources Board
Sacramento, CA**

July 30, 2008

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Agenda

- 1:00 – 1:15 Introduction and background
- 1:15 – 3:30 Overview of draft staff analysis and discussion
- 3:30 – 4:00 Next steps and closing remarks

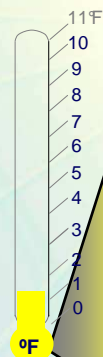
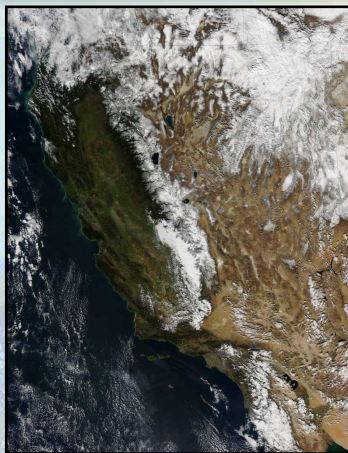
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Background

- Climate Change Impacts on California
- California Global Warming Solutions Act of 2006 (AB 32)
- Sulfur Hexafluoride Overview
- Summary of Process to Date

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California Climate Impacts (over the past 100 years)



1.3 °F higher
temperatures

~7 inch sea level rise

12% decrease in fraction
of runoff between
April and July

Snowmelt and spring
blooms advanced 2
days/decade since 1955

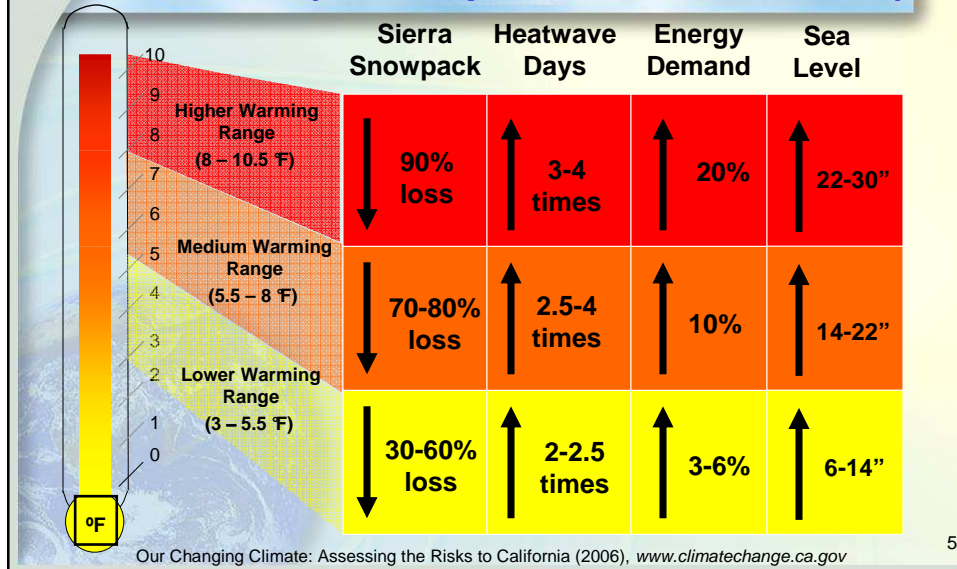
4-fold increase in
wildfire frequency
(over 34 years)

Cal/EPA-OEHHA, "Environmental Protection Indicators for California" (2002),
www.oehha.ca.gov/multimedia/epic/Epicreport.html

Westerling et al., "Warming and Earlier Spring Increase Western U.S. Forest Wildfire Activity", *Science* (2006)

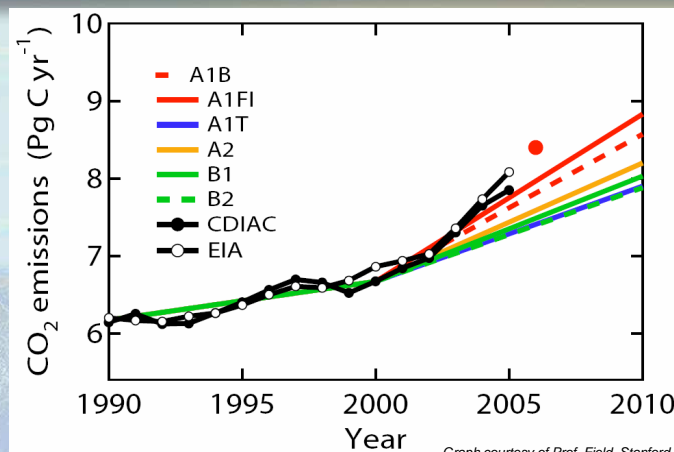
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Projected Climate Impacts on California 2070-2099 (as compared with 1961-1990)



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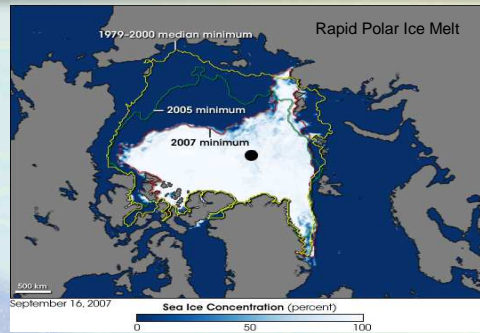
Atmospheric CO₂ Emissions



- "Current worldwide CO₂ emissions are greater than the 'do-nothing' projection from the late 1990'ties" *Raupach et al., PNAS June 2007*

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Effect of a Given CO₂ Concentration



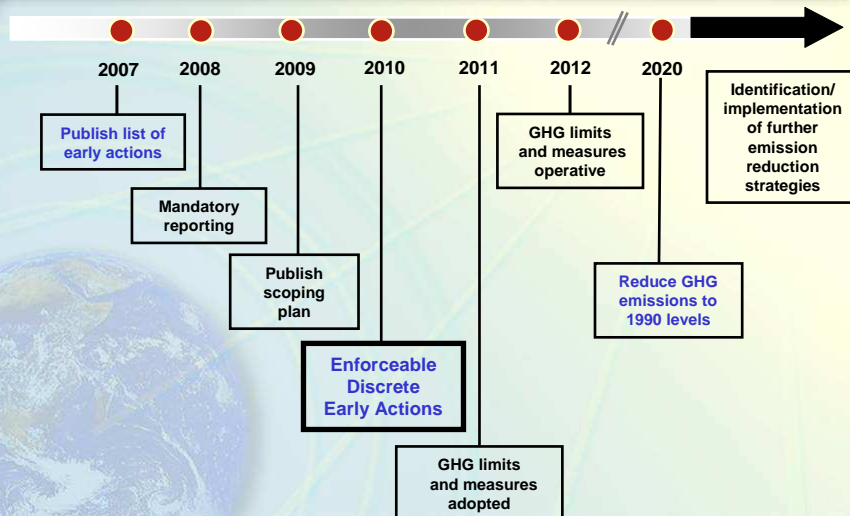
- IPCC predicted effect at a certain CO₂ level may be conservative for sensitive ecosystems

"In my opinion, if emissions follow a business-as-usual scenario, sea level rise of at least two meters is likely this century..... the safe level of atmospheric carbon dioxide is no more than 350ppm (parts per million) and it may be less."

Jim Hansen "Twenty Years Later" Congressional Testimony June 23, 2008

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California Global Warming Solutions Act of 2006 (AB 32)



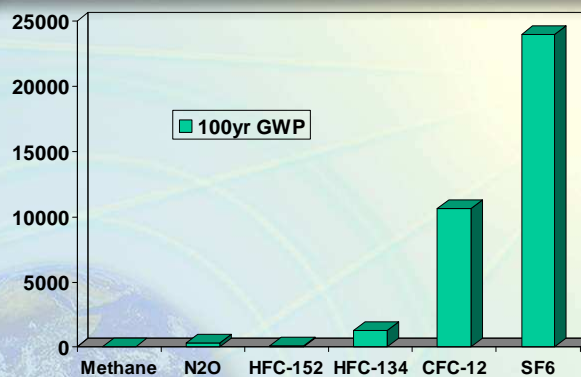
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Reductions Required by AB32

- 169 MMTCO₂E emission reductions by 2020
- 1MMTCO₂E = Annual emissions from 216,000 passenger cars or electricity used by 193,000 average CA households
- 44 Early action measures approved by board
 - 9 Discrete early actions

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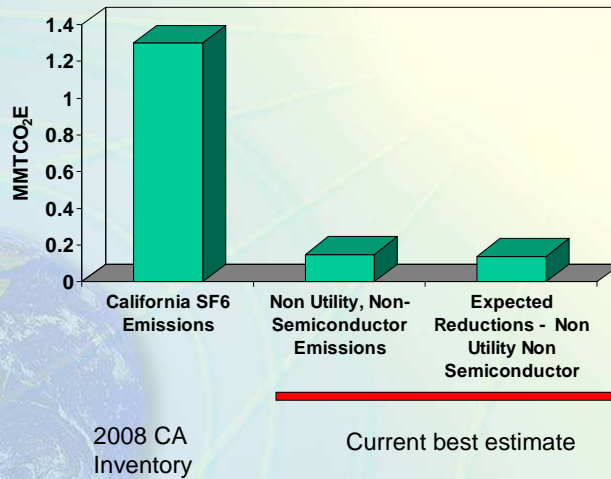
Sulfur Hexafluoride Overview



- 1lb SF₆ is equivalent to 10 tons CO₂ equivalent
- Atmospheric concentrations increasing approximately 5% per year

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Sulfur Hexafluoride Overview



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Regulatory Process

- Identify Major Stakeholders
- Establish Working Group
- Stakeholder Consultation Meetings
- Develop Draft Proposal
- Conduct Public Workshops
- Release Staff Report (ISOR)
- Hearing Notice
- Board Hearing and Adoption
- Post Board Adoption Efforts
- Submitted to Office of Administrative Law

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SF₆ Reductions in Non-Semiconductor and Non-Electric Utility Applications

Oct 2007	Board Approval
Feb 15, 2008	1 st Public Workshop
Mar 19, 2008	1 st Workgroup Meeting
May 28, 2008	2 nd Workgroup Meeting
Jul 2, 2008	Workgroup Update
Jul 30, 2008	2 nd Public Workshop

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SF₆ Reductions in Non-Semiconductor and Non-Electric Utility Applications – Continued

Sep 2008	Staff Analysis and Regulatory Language
Sep 29 th , 2008	3 rd Workshop
Oct, 2008	Comment Period
Nov, 2008	Final Workgroup and Workshop meetings (if needed)
Dec, 2008	ISOR
Jan 22, 2009	Board Meeting

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